ABSTRACT

THESIS TOPIC : ASSOCIATION OF HYPOMAGNESEMIA WITH DIABETIC COMPLICATIONS.

INTRODUCTION :

We conducted an cross sectional observational study to find out the association of hypomagnesemia with micro and macrovascular complications of diabetes.

OBJECTIVES :

1.To estimate the fasting serum magnesium concentration in patients with diabetes mellitus.

2.To correlate the serum magnesium concentration with micro and macro vascular complications of diabetes mellitus such as retinopathy, neuropathy, nephropathy, hypertension and ischaemic heart disease.

METHODS :

The study was an observational study. It was conducted at Govt. Royapettah Hospital attached to Govt. Kilpauk Medical College. Data were collected from medical wards and diabetology outpatient department in Govt. Royaapettah Hospital.Totally 150 patients were included in the study during the period of April 2016 to September 2016;the association of serum magnesium levels with complications of diabetes was studied.

RESULTS:

53 diabetic individuals out of 150 had hypomagnesemia(35.3%). Prevalance of hypomagnesemia increased with age. Prevalance of hypomagnesemia increased with prolonged duration of diabetes mellitus. Hypomagnesemia was significantly associated with poor glycaemic control as evidenced by higher fasting blood glucose. The proportion of diabetics with hypomagnesemia was more with insulin therapy than with oral hypoglycaemic drug therapy. Patients with diabetic retinopathy, neuropathy and nephropathy had significant association with hypomagnesemia as evidenced by p value..The incidence of hypomagnesemia was proportionately less in type 1 DM patients when compared with type 2 DM. Hypomagnesemia significantly correlated with ischaemic heart disease and hypertension in patients with diabetes mellitus.

CONCLUSION:

1.There is a significant prevalence of low serum magnesium level in individuals with diabetes mellitus.

2. Hypomagnesemia is significantly associated with both microvascular and macrovascular complications of both type1 and type 2 diabetes mellitus patients.